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May Issue

Expanding Erudition



Interviewing
Mr. Alok Nandan
Former Executive Director, ONGC Ltd.



Message From The Editorial Board

Tith the sun sparkling in the clear blue sky, the cherry blossoms and belladonna lilies blooming, and blackbirds and cuckoos singing, the world welcomed majestic summer by celebrating May Day. The month of merriment is here with its gentle warmth stimulating flowers to blossom, crops to sprout, and people to dance. On Mother's Day, people cherished and honoured motherhood throughout the globe. Summer brings the greenest watermelons, juicy plums, aromatic cherries, oranges and shady mangoes, that taste wonderfully refreshing and thirst-quenching. In these exhausting times of lockdowns, festivals fill us with energy and enthusiasm. After a month of fasting, the Islamic community all over the world celebrated 'The Feast of Breaking the Fast', Eid ul-Fitr.

Vaccination drive took the form of a festival that the entire nation celebrated as 'Tika Utsav'. One of the greatest challenges that have harmful impact on inhabitants of the earth is climate change. We observed Earth Day to proliferate awareness among people, to make them acknowledge their collective responsibility in shaping future of the country. Amid these challenging times when we have to maintain social distancing, our Election Commission has successfully orchestrated elections of four states along with one union territory. In the middle-east, once again Israel-Palestine conflict turned into a deadly war situation. After 11 days of violence, Israel and Hamas agreed to ceasefire. Gradually we were on the road to recuperation from last year's COVID cataclysm, but the second wave of COVID-19 hit harder than the first one, pushing us once again into lockdowns. Nature is putting humans into tribulations, one after the other, but humanity has learned to see them as challenges rather labelling them negatively. With Sputnik V vaccine reaching India and US lifting export ban on vaccine raw materials, the pace of vaccination will increase.

The virulent pandemic has taken a great toll on human life in India. We are facing a crisis of the worst kind. The entire community has come forward with sheer determination to combat it and aid each other in any way possible. Young Engineers' Association and NSS MMMUT is constantly helping people by coming up with trusted and verified sources of various resources during the pandemic.

The seed when put in the ground is cloaked by darkness. This is when its life cycle begins as it learns to survive. It unlocks its potential and utilizes all the resources available to break out of its shell. It then germinates, thereby, making its way through the darkness and into the light with a whole new world around itself. Every now and then even we human beings face unprecedented situations like the COVID-19 pandemic. In such testing times, we need to learn to use our resources properly so that we can bloom and grow. With the message of optimism, resilience, and determination, **The Editorial Board** presents the May issue of **Tiresia**.





Final Year Members: Abhishek Singh, Akshat Singh, Astitva Mishra, Avaneesh Shukla, Ishita Singh, Mayank Srivastava, Nikhil Kumar, Nitya Anand, Shikhar Trivedi, Shivam Kumar, Shivani Parashar, Suryansh Kumar Pathak, Ujali Singh, Vishnu Narain

Third Year Members: Aditi Khare, Eshan Mishra, Harsh Gujrati, Jay Kumar, Kayoor Mishra, Pratyush Mishra, Saumyadeep Tripathi, Shatakshi Srivastava, Shipra Pathak, Shivam Ojha, Snehil Pal

Second Year Members: Abhishek Singh Chauhan, Akansha Saxena, Arpit Ghosh Roy, Divyansh Srivastava, Divyansh Vinod, Divyanshi Yadav, Harshita Pandey, Hritik Mohan, Laxmi Pandey, Navrachit Kulshrestha, Radhika Srivastav, Ritvik Maurya, Shashvat Rastogi, Swarnima Mishra, Tanya Shukla, Tarun Sonkar, Yuvraj Rajyadhayksh

MESSAGEFROM

Faculty Advisor



Dr. S. N. Singh Faculty Advisor

Madan Mohan Malaviya University of Technology, Gorakhpur - 273010



, at the outset, would love to extend my message for May 2021 issue of Tiresia. The Editorial Board, the most sensitive instrument of MMMUT, is known for fostering creativity, nurturing it, and shaping it to the next level. Be it Malvika or Tiresia, both of them collect, compile and edit the ideas of multiple students, faculty members and prepare the cultural vistas of the creative forum.

Shakespeare, in one of his dramas, wrote April is the cruellest month. No doubt he wrote it in a different context, but for South Asia in general, April 2021 became the cruellest month as it caused COVID havoc on the people of these regions. People are seen in the long queues waiting for oxygen support, dying due to the lack of ventilators and ICU systems.

In the time of this pandemic, the virus is not only testing the immunity of the people, but it's also testing their character. People are facing black marketing in the front of the coffins. But at the same time, there are many Malaviyans as well who are supporting common people in their hour of need. I would like to appreciate the efforts of some students that I read about such as Mr. Durgesh Kumar, a first-year MBA student and Mr. Rahul Singh who helped by whatever means possible to

provide oxygen support to needy patients. Such innovation and uncompromising efforts bestowed on the service of humanity show the fighting spirit of the man.

An ideal society is not the one that ensures the survival of the fittest. An ideal society in a democratic scenario will always be the one that ensures the survival of the weakest. For that purpose, the efforts of scientists, doctors, frontline corona workers, and innovators must be appreciated. I, as the Editor-in-Chief of this magazine, would like to extend my heartfelt thanks to all those who extended even an iota of support for this issue of the magazine and also extended their support for the betterment of humanity.

Wishing that life and vibrancy on campus and in society will come to new normal soon.

With best regards Dr. Sudhir Narayan Singh Faculty Advisor, The Editorial Board **MMMUT**

Tête-à-tête

A talk with Mr. Alok Nandan

Mr. Alok Nandan, former executive director of Oil and Natural Gas Corporation Limited (ONGC) is a 1979 graduate of Mechanical Engineering Department from Madan Mohan Malaviya University of Technology. He is a leading expert and consultant in oil and gas Industry, commissioning, offshore drilling, project engineering, onshore operations, field management and contract management. **The Editorial Board** got the opportunity to interact with him and interview him about his experiences. Here is an excerpt from the interview.



How would you describe your journey in Malaviya?

I had a marvellous journey at Malaviya from both the personality perspective and an academic point of view. I received enormous support and co-operation from my colleagues, teachers and seniors. I learned a lot and had numerous great experiences in the hostel rooms, classrooms and the beautiful campus.

What were the major challenges you faced in your career and how did you overcome them?

I passed out in the year 1979 and at that particular phase of time, things were not so open. It was a big deal for someone like me who belongs to a small town, to shift to an entirely new place for the job. At that time, my family insisted me to work in nearby areas, but due to some circumstances, I had to start my first job at Bombay high offshore oilfield. The second major challenge was the language barrier. Sometimes, it was very difficult to explain and share ideas and thoughts. I worked a lot on my communication skills and tried to improve myself. Lastly, applying technical knowledge in the workplace was an entirely new experience. The geographical conditions at the workplace were not favourable, hence transportation was a big deal there.

What do you think about India's dependence on crude oil and natural gas and how should it be minimised?

In our country, there is a big misconception that the petroleum and gas industry is just like any other industry. It is one of the few industries which directly depends upon mother Nature. Its production can't simply be increased by deploying more labour, equipment and machinery. This industry relies on the availability of raw materials from the source rocks (geological term) which takes thousands of years for the formation. The recovery of raw materials is also in a small percentage up from 30% to 40%. This evolving industry needs better and modern technologies. India has very few places where there is availability of raw materials. Hence, the country should concentrate on renewable sources of energy to decrease its dependence on other countries for raw material.

In recent years, the gas and petroleum sector has faced various key challenges such as technical constraints, inadequate transmission, distribution infrastructure and many more. According to you, what can be done to counter these challenges?

I don't agree that there are many infrastructure related issues now, although, there were certain issues in earlier days. GAIL had been made in the early 80's purposely for improving the gas infrastructure around the country. Although the things were very slow at that time and only one pipeline from Hajira to Jagdishpur, called the HVJ pipeline was there. But, nowadays continuous work is going on in establishing a pipeline network across the country. That's why you see city gas system is now coming up in all the big and middle range cities. The thing is that we are importing a lot of gas in compressed form. It is too costly to lay gas pipelines under the sea. So, CNG and LPG are liquefied and brought in the bullets and gasified at the shore and finally compressed in these pipelines. It is cheaper in Canada, Australia and the middle-east. In oil infrastructure, there are no big issues since many big refineries are present at Jamnagar, Bikaner and Panipat. As far as production is concerned, the Indian reservoirs are almost at their mature stage. In ONGC, we have an arm called ONGC Videsh limited. So, we are acquiring the fields outside India. We have properties in Sudan,

If you are given an opportunity, then come out of your shell and take on challenges.

Venezuela, Vietnam, Myanmar, Brazil, Russia and other countries. Thus, all these things are helping.

Recently, the wrath of nature has increased on human beings mostly in terms of flash floods and earthquakes. Do you think sustainable development is the only solution to it?

In today's world, we are exploiting mother Nature by Acreating voids on the earth's surface, destroying the green belt atmosphere and interfering with the natural vegetation. All these activities are resulting in an improper ecological balance. This imbalance leads to several natural calamities such as earthquakes, floods, melting of glaciers, climate change and many more. Talking about the petroleum and gas industry, it has a vital role in sustainable development as oil and gas are the key pillars of the global energy system. This industry acts as a driver of economic and social development. Sustainable development in this sector can lead to more efficiency, cost savings and competitiveness which will enhance access to affordable and reliable energy which in turn will be eco-friendly.

The petroleum and gas industry is very diverse in the way it works with different domains and networking opportunities. Sir, what are your views on different career options in this evolving sector?

In the petroleum and gas sector, mechanical, electrical, electronics and instrumentation are the four major fields that have good opportunities to progress. There is a big scope for civil engineers also who have good command and specialization over structural engineering. In the deep water area, the technologies are different. There, you have various equipment which have to be operated from far away. You don't have to go to Visakhapatnam and other bases so you need to have a system available, which is linked through satellite. Nowadays, the old file system



has stopped and everything is done through the internet in my organization. For example, all the approvals are done digitally. Many programming and software experts have also started to work with us. In fact, we have a good number of Malaviyans in ONGC.

What are your areas of interest, apart from **Lacademics?** What's your advice to the students on productive usage of their free time?

Travelling. I have travelled a lot. I think I have seen the entire India. There isn't any place in India which I have not discovered. In abroad except South America, I have been to every other continent. So, travelling is my biggest passion and I can travel for any number of days. For students, I would say, that the first thing is you should do some skill courses. In my days, engineering used to be the main course, but nowadays, it has become a basic course. You can do skill courses like project management or quality control. You should have specialization in certain fields and it is surely going to help you in for your future growth. The second thing, I would say is to read more. You have the internet today where you can search for any query. Always put questions without hesitation and thinking about what people will think. You don't have to be ashamed of anything. Even if you are weak in English, it's alright. When you travel worldwide, there are plenty of people who don't know English. I have been to France and lived there for a month. Nobody spoke English there or used broken English. It was difficult to communicate with them unless you used sign language.

What message would you like to impart to the Malaviyans through this newsletter?

Malaviyans are rocking wherever they are and many of them are in key positions in many reputed companies. I would say that if you are given an opportunity, then come out of your shell and take on challenges.

For example, during my time Bombay offshore was a new area and my parents were not willing to send me, but if I had never come out then I would still have been in Naini. Another thing is that one must work very hard, especially in the starting 5-10 years of their career. Even if someone makes you work like a donkey, then work like that so that you can enjoy the fruits of success for your remaining life.

- IEEE Student Branch, celebrated IEEE Annual Day on February 08, 2021 to commemorate the year round activities, events and conferences conducted by them. A ceremony was also conducted to honor the accomplishments of IEEE members of the batch 2020.
- Madan Mohan Malaviya
 University of Technology,
 Gorakhpur conducted its 5th
 Convocation Ceremony on February 09,
 2021 and February 10, 2021.
- Campus placement drive was conducted by **Bharat Electronics**Limited for MTech(CSE) students from February 11, 2021 to February 13, 2021 under **Training and Placement**Cell.
- Campus placement drive was conducted by India Glycol Limited, GIDA, Gorakhpur for final year students of (2021 batch) BTech(EE/ME), MBA(Marketing) on February 15, 2021 and February 16, 2021 under Training and Placement Cell.
- Campus placement drive was conducted by **Keyideas** for final year students of (2020-21 batch) BTech(CS/ECE) on February 20, 2021 and February 21, 2021 under **Training and Placement Cell**.

- The Editorial Board conducted The Annual Photoshoot for the final year students (2021 batch) of BTech on February 22, 2021.
- MAR IEEE Student Branch conducted Women's Empowerment and Awareness Programme on account of Women's Day on March 8, 2021.
- Entrepreneurship Development Cell conducted an online interactive session Freshers Talk for BTech 1st year students from March 14, 2021 to March 16, 2021.
- MAR NSS MMMUT organized an online quiz competition QUIZADER on account of Chauri Chaura Incident and World's Consumer Rights Day on March 15, 2021.
- MAR The Editorial Board commenced an online short story writing competition Twist and Twain on March 16, 2021.
- MAR IIChE Student Chapter, MMMUT conducted Mind-Be-Dazzle from March 17, 2021 to March 19, 2021.



Association of Civil Engineers conducted a guest lecture with Dr. Gangadhar Ramtekkar, HOD Civil Engineering, NIT Raipur on the topic Fundamental Concepts of Structural **Engineering** on March 18, 2021.

Association of Civil Engineers conducted a guest lecture with Bharat Lohani, Dr. Professor, Department of Civil Engineering, IIT Kanpur on the topic 3D Mapping using LiDAR Technology on March 19, 2021.

NSS MMMUT in collaboration with The Institution of Engineers, Gorakhpur conducted a seminar on Valuing Water on the account of World Water Day on March 22, 2021.

Entrepreneurship Development Cell organized a polling event **ENCUESTA DE CRIQUET** from April 10, 2021 to May 03, 2021.

IEEE Student Branch conducted an event Magnum Opus from April 20, 2021 to April 23, 2021.

IEEE Student Branch and PES Chapter MMMUT conducted an online webinar on Clean Energy **Revolution** on April 22, 2021.

IEEE Student Branch conducted an online quiz on account of PES Day on April 22, 2021.

IEEE Student Branch MMMUT, along with IEEE student branches several other institutes, conducted a workshop on Competitive Programming and interview preparation from April 23, 2021 to April 30, 2021.

Young Engineers Association in collaboration with NSS MMMUT launched a website for verified sources of various resources for COVID-19 on April 26, 2021.

Association of Civil Engineers collaboration Entrepreneurship Development Cell conducted a workshop, Cognizance with Dr. V.K. Dwivedi, Chairman, Training and Placement Cell on May 02, 2021.

NSS MMMUT collaborated with NSS Shaheed Sukhdev College of Business Studies University of **Delhi** for the further events and activities with the signing of an MoU on May 05, 2021.

Team Raptor 3.0 under SAE Collegiate Club secured AIR-3 in Brake Dynamic Test and AIR-80 in BAJA SAE INDIA on May 12, 2021.



Blockchain is the tech. Bitcoin is merely the first mainstream manifestation of its potential.

A cryptocurrency is a virtual or digital currency that is meant to be a medium of exchange. In today's time, it is a payment system that is being used worldwide. These currencies are created and stored using blockchain technology. A blockchain is a secure decentralized database that maintains a continuously growing list of records or transactions. Cryptocurrencies have "crypto" in their names as they are built on a method called cryptography (the science of hiding things). This is done to maintain the security and fidelity of coins.

In 2009, Satoshi Nakamoto launched a cryptocurrency 'Bitcoin', the first and most widely used decentralized ledger currency, with the highest market capitalization. There are a total of 21 million coins, wherein 1 Bitcoin (BTC)= 10⁸ Satoshi (the smallest unit). The main reason behind creating this digital cash system was because the US subprime mortgage crisis (2007) made many anarchist groups lose their faith in traditional money which eroded the purchasing power of the dollar. They also disliked bank or deposit money because of transaction charges on e-banking, card payments, MDR and other interoperability issues, thus, creating

their currency without a central authority. Ethereum, Litecoin, Digicoin, Laxmicoin, Ripple etc. are also some of the cryptocurrencies.

Cryptocurrencies use decentralized technology to let users make secure payments and store money without the need to use their name or go through a bank. Using blockchain, new entries are added, which are visible to all and old entries cannot be deleted. To make transactions secure, they use a method of encryption and decryption which usually requires a computational algorithm (e.g. SHA256), a public key (that a user shares with everyone like the email) and a private key (which acts as a digital signature of the user). Transactions on bitcoins are defined using a forth-like scripting language. Users can also use digital signatures to verify if transactions are real or not.

The key components of the creation of a blockchain are:-

- **Nodes** These are the devices that exist within the blockchain like the devices of cryptocurrency miners.
- Miners- Miners are nodes that solve the unconfirmed

The market share of various cryptocurrencies in circulation (in billion dollars)

blocks by verifying the hashes and adding them to the blockchain after verification.

- Hashes- Hashes are the fixed length of outputs generated after the input data goes through a given hashing algorithm.
- Nonces- A nonce is a non-repeating number that the miners solve for. It gets added to the hash in each block of the blockchain.
- Consensus algorithm- This is a protocol within the blockchain that helps different nodes within a distributed network agree to verify data.
- Blocks- Each block contains a list of completed transactions. Blocks, once confirmed, can't be modified because of the transparency provided by the peer-topeer system.
- Blockchain- The blockchain itself is a series of blocks that are listed in chronological order.

Blockchain technology and crypto mining go hand in hand. Both of them are interdependent for their smooth functioning and delivering their promise of a better future. Strictly speaking, crypto mining is a transactional process that involves the use of computers and cryptographic processes to solve complex functions and record data to a blockchain.

A cryptocurrency's uniqueness stems from the fact that it does not have a centralized ledger because they operate in a blockchain. This makes it different from the traditional banking system where everything is centralized and dependent on the well-being of a single system.

Below are the steps crypto miners follow for mining cryptocurrency:-

- Legitimate transactions are verified by the node.
- The crypto mining process bundles all transactions into a list and adds them to a new, unconfirmed block of data.
- · Additional info, like the header data and hash from the previous block, is added to the unconfirmed block





once it gets filled up with enough transactions. The hash is then verified by a miner node.

- A hash is verified by the miners to ensure its legitimacy.
- · After successful completion of the above steps it is finally published in a blockchain.

The computers that mine that specific type of cryptocurrency are all responsible for keeping the ledger current and because of this feature updates to the blockchain are frequent.

While it is really crucial to remember that no investments are genuinely safe, cryptocurrencies in that regard as well have shown a certain amount of risks and dangers. Recently the Central Bank has reared security risk linked to the cryptocurrencies, saying it could give an upsurge to money laundering and terrorist financing, because of the anonymity of the transactions. The regulators believe that the steps taken by the government to restrict black money flow won't work, if the government allowed cryptocurrencies in the economy. Also, there are chances that the large amount of illegal money stashed overseas may return back to the country.

The potential of cryptocurrencies is immense. Under controlled and strict guidelines, the cryptoindustry may as well flourish for the betterment of the Indian economy, providing stable and long term growth in the foreseeable future. According to officials at various Indian Crypto exchanges, there are over seven million crypto traders in India in the age group of 25-35 with over a billion dollars of crypto assets. These facts alone are a strong indication that under the right governance and supervision, the balanced and sustainable growth of the economy of India could be enormous.



If the Arabs put down their weapons today, there would be no more violence. If the Jews put down their weapons today, there would be no more Israel.

This month on May 7, 2021, Israeli police and Palestinian protestors clashed at Al-Aqsa mosque in East Jerusalem. This mosque is considered the third holiest site in Islam. The compound is called Haram al-Sharif by Muslims and Temple Mount by Jews. The Temple Mount is considered a holy place by Jews. The clashes were the result of ongoing protests against the eviction of six Palestinian families from Sheikh Jarrah, a neighbourhood of East Jerusalem. Palestinian protestors hurled stones and firecrackers at Israeli police from the Al-Aqsa mosque. The Israeli police resorted to rubber bullets, water cannon, tear gas, and stun grenades to disperse the crowd and bring the situation under control. This clash came a day before the Jerusalem Day march when thousands of Israelis marched in the old city to celebrate the annexation of the city. The clashes left more than 300 people injured including Palestinian

civilians and Israeli police.

After the violence at the Al-Aqsa mosque, Hamas issued an ultimatum to Israeli forces to vacate the temple mount by 6 pm on May 10. Minutes after the ultimatum expired, multiple rockets were fired by Hamas on Israeli cities located in central and southern Israel. While most of the rockets were intercepted by Israel's Iron Dome air defense system, few managed to hit the civilian areas causing damage to life and property. An Indian nurse Soumya Santosh was killed in a rocket attack. In retaliation, Israel launched a series of targeted airstrikes against Hamas and its commanders in the Gaza Strip which resulted in several civilian casualties. This was the heaviest flare since the 2014 Gaza War which left over 240 people dead. After 11 days of continuous fighting, Israel and Palestine came to a truce on May 21, 2021, with both sides claiming victory. The conflict claimed more than

Israel's Iron Dome intercepting rockets fired from Gaza towards Israel

250 lives including 248 Palestinians and 13 Israelis. (numbers)

The Israel-Palestine conflict has its roots in 957 BC when King Solomon built the first Israeli temple in the Israeli Kingdom. The temple was destroyed by Nebuchadnezzar II of Babylonia in 587/586 BC. The current political conflict dates back to the early 20th century when the British Empire promised to form a Jewish state. The present-day area of Israel and Palestine was under the control of the British Empire from 1920 to 1948 as Mandatory Palestine, having been surrendered by the Ottomans at the end of the First World War. The land was a Jewish minority and Arab majority then. The Balfour Declaration of 1917 promised British support for a Jewish national home in Palestine.

After facing persecution and holocaust in Europe after the Second World War, Jews arrived in large numbers in this region what they used to call their ancestral home. This led to sectarian violence between the Arabs and the Jews. Amidst the growing tensions, the United Nations (UN) adopted a partition plan for Palestine in 1947 recommending the creation of independent Jewish and Arab states with Jerusalem as an international city. The plan was accepted by the Jewish Agency but was rejected by Arab leaders. On May 14, 1948, the Jewish Agency declared the independence of State of Israel.

Soon after the adoption of the UN resolution to divide Palestine, the Arab and Jewish militias went into a civil war (1947-48) which resulted in Palestinian defeat and independence of Israel. After Israel's independence, surrounding Arab armies invaded Palestine which led to the 1948 Arab-Israeli War. This war ended in Israel gaining control over the proposed Jewish areas as well as almost 60% of the area proposed for Arabs. The Kingdom of Jordan (then known as Transjordan) gained control of the West Bank and Egypt gained





control over the Gaza Strip.

Israel again went to war with Egypt, Jordan, and Syria in 1967 which came to be known as the Six-Day War. This war lasted for six days from June 5, 1967 to June 10, 1967. After the war, Israel seized the Gaza Strip, Sinai Peninsula, West Bank (including East Jerusalem), and the Golan Heights.

The Arab League has been opposing Israel since it was formed. However, Egypt (1979) and Jordan (1994) signed peace treaties with Israel after the latter agreed to return the annexed areas. In 2020, Israel signed agreements establishing diplomatic relations with four Arab League countries, namely Bahrain, UAE, Sudan, and Morocco. Israel maintains close relations with the US which has led to Israel's dominance in the region. Palestine is recognized as a de jure sovereign state by the United Nations since most of the territory claimed by Palestine is under de facto control of Israel. The United Nations has pitched for a two-state solution to the Israel-Palestine conflict but the Arab leaders have outrightly rejected it.

India has followed a policy of mutual coexistence and supports the two-state solution to the conflict. It was until 2017 that India openly supported the Palestinian cause but later in 2017 PM Modi changed its stance supporting the peaceful coexistence of Palestine with Israel. India maintains cordial relations with both nations. India established diplomatic relations with Israel in the year 1992. India is Israel's strongest ally in Asia and maintains close defense and security ties with Israel. Also, India was the first non-Arab country to recognize the Palestine Liberation Organization's authority as "the sole legitimate representative of the Palestinian people." India recognized Palestine's statehood on November 18, 1988. From time to time, India has provided monetary aid to Palestine including aid to the UN for the welfare of Palestinian refugees. Given the current circumstances, the peaceful coexistence of both nations seems to be the only viable solution to this conflict.



A concrete cylinder of diameter 100 mm and length 300 mm when subjected to an axial load of 250 kN resulted in the increase of diameter by 0.127 mm and a decrease in length by 0.75 mm. The value of modulus of elasticity is?

CIVIL ENGINEERING

In a 4-wire, 3-phase system, two phases have currents of 10A and 6A at lagging power factors of 0.8 and 0.6 respectively while the third phase is open-circuited. Calculate the current in the neutral.

ELECTRICAL ENGINEERING

50 ml of lubricant oil was dissolved in alcohol and the solution was titrated against 0.3 N KOH solution. At the end point, the burette reading was found to be

CHEMICAL ENGINEERING

5.0 ml. Calculate the Acid value of the oil.

```
What is the output of the following C
program?
#include <stdio.h>
intmain()
float a,b;
int x=6, y=4;
   a=x/y;
printf ("value of a = \%f \ ",a);
   b = (float) x/y;
printf ( "value of b= \%f\n",b);
return 0;
```

INFORMATION TECHNOLOGY

What is the donor concentration in a sample of N-Ge having a resistivity of 0.1 ohm meter at 300 K?

ELECTRONICS AND COMMUNICATION ENGINEERING

In an experiment, the bulk modulus of elasticity of a material is twice its modulus of rigidity. The Poisson's ratio of the material is?

MECHANICAL ENGINEERING

What does the following function do for a given Linked List with first node as head? void fun1(struct node* head)

```
if(head == NULL)
 return;
fun1(head->next);
printf("%d ", head->data);
```

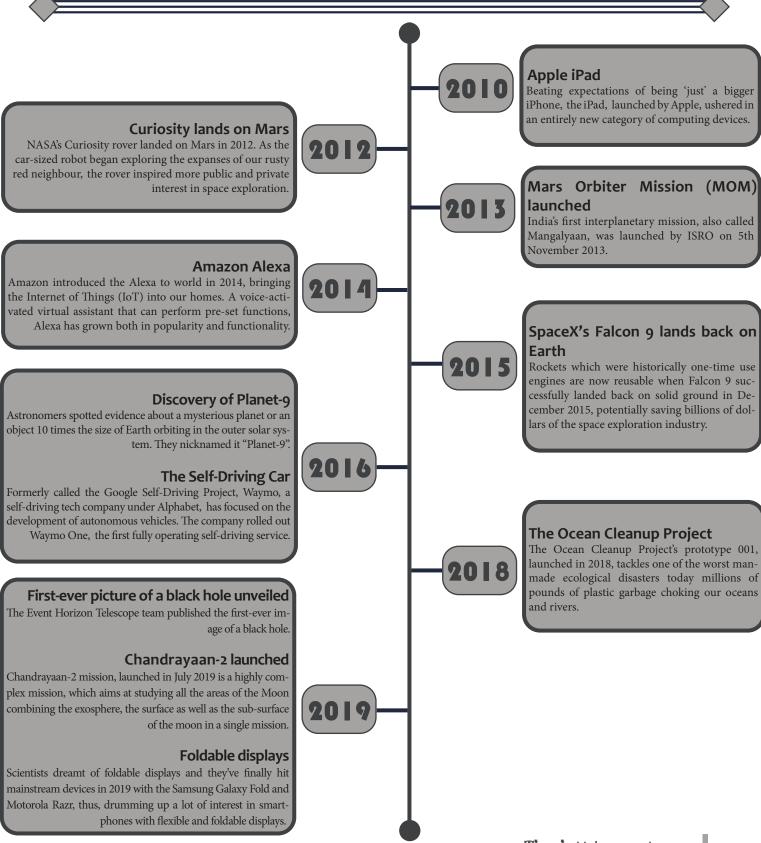
COMPUTER SCIENCE AND **ENGINEERING**



Winners of the Tech in Sights of **Tiresia** Volume 12, Issue 3 couldn't be decided as the answers received were either late or unsatisfactory.

THE LAST DECADE

Remarkable technological events of the decade 2010-2019





परोक्त पंक्तियाँ जो श्री रबीन्द्रनाथ टैगोर जी ने फेरीवालों के स्वभाव एवं स्थिति को दिखाने के लिए लिखी थीं, काल की सीमाओं को तोड़ कर आज भी हमारे सामने फेरीवालों के सटीक बिंब को प्रस्त्त करती हैं। अपने कन्धों पर तरह-तरह का सामाँन लादे हुए, कई बड़े शॉपिंग मॉल और उनके विज्ञापनों की अपनी आवाज़ से टक्कर देते हुए ये फेरीवाले आज भी हमें गली-कुचों में मिल जाते हैं। यद्यपि इनकी प्रतिदिन की ऑय २०-३० रूपए ही होती है, परंत् अपने संतोष तथा धैर्य के बल पर ये बढ़ती महँगाई से डट कर लड़ते हैं। स्वतंत्र भारत में ८० से ९० के दशक तक घर-घर में दैनिक जीवन की उपयोगी वस्तुएं मुहैया कराने में फेरीवालों की ही मुख्य भूमिका थीं, इसका पता हमें कई प्रसिद्ध रचनाओं जैसे स्भद्रा कुमारी चौहान जी की "हींगवाला", रबीन्द्रनाथ टैगोर जी की "काबुलीवाला" आदि कहानियों से भी चलता है| एक प्रकार से फेरीवाले भारतीय संस्कृति में रच-बस गए हैं तथा भारतीय इतिहास का एक अभिन्न अंग हैं। परन्तु आज के दौर में फेरीवालों को कोरोना तथा बेरोज़ॅगारी की दोहरी मार झेलनी पड़ रही है| अब वो दिन बीत गए हैं जब उनकी वस्त्एं हाथोंहाथ बिक जाती थीं। इसके कई प्रत्यक्ष तथा अप्रत्यक्ष कारण हैं।

आधुनिकीकरण के इस दौर में बाज़ार की प्रतिस्पर्धा से फेरीवाले लगभग बाहर हो चुके हैं। समाज का एक बड़ा वर्ग समूह फेरीवालों की जगह बड़े-बड़े शॉपिंग मॉल्स और शोरूम से वस्त्एं खरीदना पसंद करता है। इस कारण फेरीवालों का व्यवसाय छोटे से वर्ग समूह के बीच सीमित हो कर रह गया है। इस स्थिति में फेरीवालों के लिए अपने व्यवसाय को बचाए रखना बहत बड़ी चुनौती है| फेरीवालों की इस दयनीय स्थिति के पीछें कहीं न कहीं हमारी भी भूमिका है। हम महंगे होटलों में खाना खाने के बाद वेटर को १०० रुपये टिप के रूप में दे सकते हैं, फ़िर भी इन फेरीवालों या सड़क किनारे सामान बेचकर गुजरा करने वालों से मोल-भाव करने लग जाते हैं; यह सर्वथा अन्चित है| दुनिया के लिए आपदा साबित हुआ कोरॉना फेरीवालों के लिए ऐसा भयावह समय लेकर आया जिसमें एक वक्त की रोटी नसीब होना भी फेरीवालों के लिए कठिन हो गया है। ऐसे में हमें फेरीवालों के प्रति अपनी मानसिकता को बदलने की आवश्यकता है। एक स्वस्थ समाज के निर्माण के लिए सभी वर्गों का उत्थान होना आवश्यक है और यह बिना आपसी सहयोग के संभव नहीं है।

जनसंख्या वृद्धि के कारण भारत में रोज़गार की कमी हो रही है। ऐसे में फेरीवालों के रूप में एक अच्छा-खासा वर्ग समूह घर-घर वस्तुएं बेचकर गुजारा कर रहा है। नेशनल सैंपल सर्वे ऑफिस (NSSO) के अनुसार भारत में करीब 2 लाख महिलाएं व 21500 बच्चे सड़कों पर या घर-घर जाकर सामान बेचते

है तथा करीब 10 लाख 18 हज़ार गृहस्थ इसी माध्यम से अपनी जीविका चलाते हैं। इनमें से अधिकतर लोगों की प्रतिदिन की कमाई 50 रुपये से भी कम है अर्थात ये सभी गरीबी रेखा के नीचे हैं। ऐसे में कोरोना इनके लिए दोग्नी तबाही ले कर आया। बह्त से फेरीवालों का व्यापार कोरोना के चलते ठपँ हो गया है। उन्हें कोरोना संक्रमण के साथ-साथ कमाई बंद हो जाने का भी डर है। ऐसे समय में जब देश महामारी से उबरने की कोशिश कर रहा है, सभी लोग ख्द को बचाने में लगे हए हैं, मात्र बीमारी से हीं नहीं, बल्कि मंदी-रुपी दानव से भी, तब इन फेरीवालों को भी इस परिस्थिति से उबरने के लिए हमारी सहायता की आवश्यकता है।

इस दानव की सबसे खतरनाक चाल यही है कि यह प्रतिद्वंदी को यह पता ही नहीं चलने देता कि वह कब इसकी चपेट में आ गया। इस कारण से बहत से छोटे व्यापारियों को अपना धंधा बंद करना पड़ा है। बहत से फेरीवालों के परिवारवालों को कोरोना ने अपना निशाना बना लिया, जिनके उपचार में उनकी सारी जमा-पूंजी चली गई। कई लोगों को अपना व्यवसाय बंदे कर किसी दूसरे के यहाँ नौकरी, यहाँ तक की मजदूरी के सहारे

अपना जीवन यापन करना पड़ रहा है। भारत सरकार ने भी फेरीवालों को कोरोना के बाद दोबारा आत्मनिर्भर बनाने के लिए प्रधानमंत्री 'स्ट्रीट वेंडर्स आत्मनिर्भर निधि (पीएम स्वनिधि योजना)' नामक योजना श्रू की है जिसके तहत उन्हें एक साल के लिए 10000 रुपयों का ऋण बिना किसी गारंटी के उपलब्ध कराया जा रहा है। परंतु एक सामाजिक जीव और इस देश के नागरिक होने के नाते हमारी भी अपने साथी नागरिकों के प्रति कुछ ज़िम्मेदारी बनती हैं।

इस समय हमारा भी यह परम कर्तव्य है कि हम इन फेरीवालों और इनके जैसे अन्य लोगों की सहायता करने के लिए आगे बढ़ें। जितना हो सके उतनी वस्तुओं को इनसे खरीदें जिससे ये भी समाज के साँथ कंधे से कन्धा मिलाकर आगे बढ़ सकें और विकास की ओर प्रगतिशील रहें। बाज़ार की चकाचौंध में गायब होते इन फेरीवालों को प्नः वह स्थान दें जो इन्हें क्छ वर्षी पूर्व तक दियाँ जाता था। हमारे छोटे से सहयोग से यदि हमारे किसी अपने देशवासी का परिवार भूख से व्याकुल रहने की बजाय चैन की नींद सों पाए तो इँससे बड़ी बात हम सब के लिए शायद ही कुछ होगी।











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